

Feb. 18, 2010

Ms. Carla McConnell, Project Manager  
**Manhattan Project Sites Special Resources Study**  
U.S. Department of the Interior  
National Park Service, Denver Service Center  
12795 W. Alameda Parkway  
PO Box 25287  
Denver, CO 80225-0286

Dear Ms. McConnell,

**Re: Manhattan Project Sites Special Resources Study – Towards Understanding the Full Story**

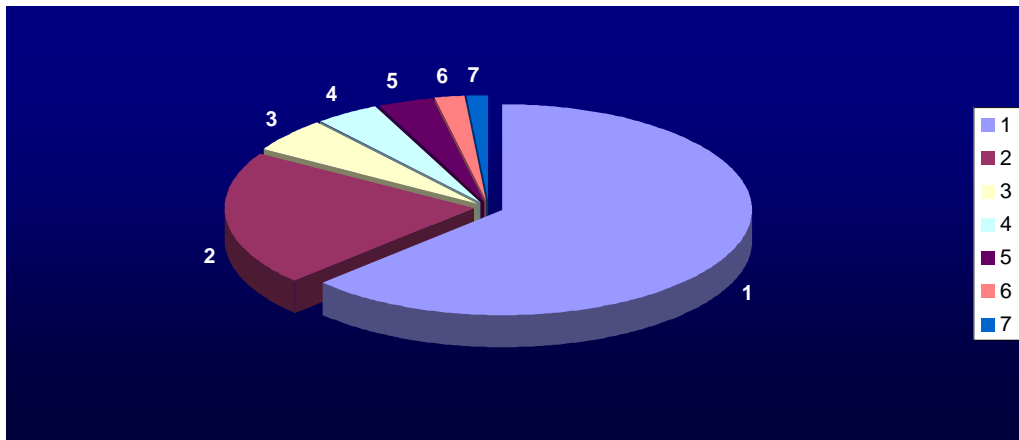
Your Draft SRS/EA does indeed recognize the “national significance” of the Manhattan Project story, but Alternative E - the Park only at Los Alamos – would focus visitor’s attention on the very challenging work by a couple thousand people in building the two war-ending bombs. Visitors would not see, hear, or come to appreciate the many places and remnants of the far larger and equally challenging work (from a scientific and engineering standpoint) that made that terminal effort possible. A visitor cannot appreciate the national sweep and scope of the National Park Service efforts by visiting Yosemite. It is the story of the entire Manhattan Project that needs to be preserved for future generations and it is more than can be told by any one site.

Here is some additional information to what you have been given that the study team might find of interest. It is an overview of the Project the media never portrays, one that shows the breadth and depth of the Manhattan Project. Telling the full story to future generations will be a very exciting and challenging task for the NPS. Drs. Vannevar Bush and James B. Conant had an awesome responsibility for guiding and overseeing for the President the Government’s Manhattan Project to beat Germany to the bomb.

First shown is a graphic and a table of the costs of the Manhattan Project through 1945, compiled by the undersigned from the official History of the USAEC by Hewlett and Anderson. It shows, for instance, that the cost of the highly uncertain and very challenging scientific and engineering efforts to provide the essential highly enriched U-235 and the Pu-239 amounted to 83.5% of the Manhattan Project. The success of each of those major works was due to the Army Engineer’s approach of coupling each of the ongoing university research teams with a major U. S. chemical /chemical engineering corporation who then completed the R&D, scaled it up, and operated these first-of-a-kind plants. The critical roles of Tennessee Eastman, Union Carbide, and E.I. DuPont’s people in the Project’s mission success have been all but forgotten.

Following the costs exhibit, in two parts, is an insight into the way the work of the Manhattan Project was organized and carried out. First is an organization chart for the Army’s District Engineer, Colonel Kenneth D. Nichols, in charge of administering this highly secret project. The date is Dec. 13, 1945. “Nick” was a brilliant PhD in engineering, given the job at age 35 by Gen. Groves in 1943. Second is a look at the various areas of the country that were so important to the Project either for procurement or for production of the materials needed.

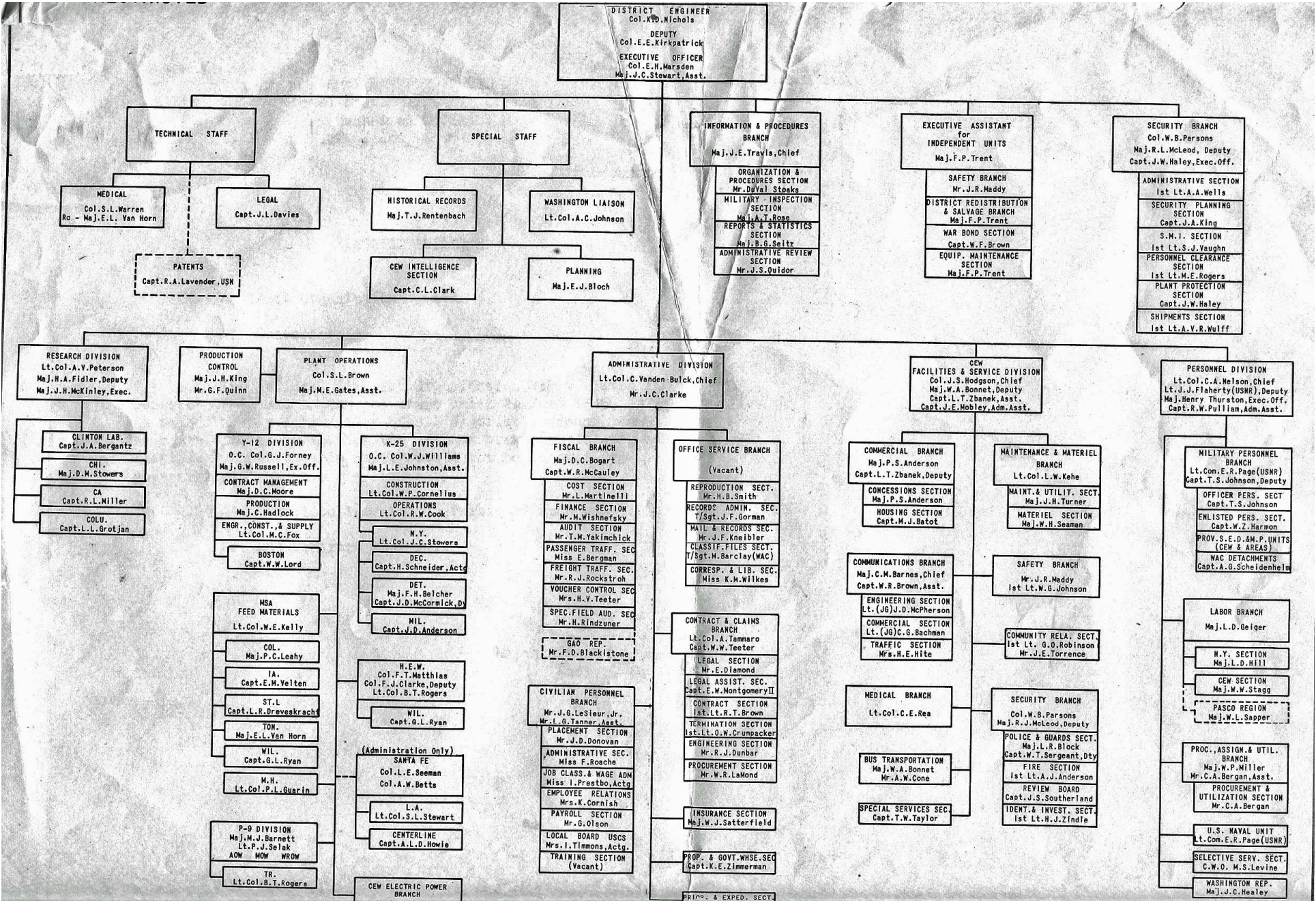
### Total Manhattan Project Costs 1942-1945



Compiled from R G Hewlett & O E Anderson, *The New World*, page 723

1. Oak Ridge
2. Hanford
3. Special Materials – U (ore, refining etc.), ultra pure graphite, others.
4. Los Alamos
5. Universities R&D (Berkeley, Chicago Met Lab, Columbia SAM, Rochester, Iowa State @ Ames, Princeton, Yale, others.
6. Government Overhead
7. Heavy Water Plants

		\$ Millions	%M.P.	\$ Millions 2008 \$\$
K-25 GD Plant	U-235 (Gaseous Diffusion)	512.1	27.1	6,064
Y-12 Plant	U-235 (Calutrons)	477.6	25.3	5,655
Town of Oak Ridge		96.0	5.1	1,137
The Army Engineers	M. P. Administration – USED	60.0	3.2	710
X-10 Graphite Reactor	Pu-239 Semiworks	26.9	1.4	319
S-50 Therm.Diff. Plant	U-235 (Liquid Thermal Diffusion)	15.7	0.8	186
<b>Oak Ridge</b>	<b>Total of Above</b>	<b>1,188.3</b>	<b>62.9</b>	<b>14,071</b>
<b>Hanford</b>	<b>Pu-239 Production and Separation</b>	<b>390.1</b>	<b>20.6</b>	<b>4,619</b>
<b>Special Materials</b>	<b>U Ore, Refining, etc.</b>	<b>103.3</b>	<b>5.5</b>	<b>1,223</b>
<b>Los Alamos</b>	<b>Weaponization</b>	<b>74.1</b>	<b>3.9</b>	<b>877</b>
<b>Universities, R&amp;D</b>	<b>Calif, Chicago, Columbia, Iowa State, Princeton, Yale, others.</b>	<b>69.7</b>	<b>3.7</b>	<b>825</b>
<b>Govt. Overhead</b>		<b>37.3</b>	<b>2.0</b>	<b>442</b>
<b>Heavy Water Plants</b>	<b>Trail, B.C. others</b>	<b>26.8</b>	<b>1.4</b>	<b>317</b>
<b>Total End 1945</b>	<b>Manhattan Project</b>	<b>1,889.6</b>	<b>100.0</b>	<b>22,375</b>



To further aid NPS in appreciating the breadth of the Manhattan Project work, the author has compiled the number of Officers engaged in the work shown in the organization chart, although the chart above is dated 13 December 1945, and closest available officer assignment Roster is that of 31 August 1945. What this emphasizes is the number of Area Offices that were vital to accomplishing the Manhattan Project mission.

The "Roster of Officer Personnel in the Manhattan District at Midnight 31 August 1945, District Office" lists the full names, Serial Numbers, Rank, and "Duty." Under each organizational Division, the names are listed according to Rank. The highest ranking officers on the Roster are those of Colonel, and there are nine:

Colonel Kenneth D. Nichols, District Engineer (the COO of the Manhattan Project)  
Col. Earl H. Marsden, Executive Officer under Nichols,  
Col. Staunton L. Brown, Special Asst. to the District Engineer  
Col. William B. Parsons, Intelligence  
Col. Stafford L. Warren, Chief Medical Officer  
Col. Walter J. Williams, K-25 Division  
Col. Franklin T. Matthias, Hanford Engineer Works  
Col. Gerald R. Tyler, Commanding Officer, Los Alamos Area  
Col. Donald E. Antes, Headquarters, Special Inspector

In addition to Oak Ridge Headquarters being responsible for administration of all the major construction and operating contracts at Oak Ridge and Hanford, for intelligence, personnel, and security; a major effort was required for procurement - not only for construction of the huge new facilities at Hanford and Oak Ridge - but for classified special equipment like Y-12's silver magnet windings, K-25's 6,000 centrifugal compressors, the ultra pure graphite for all the nuclear reactors, the never before conceived of acres of "barrier" for K-25, and for the tonnage quantities of uranium needed for Y-12, K-25, and Hanford.

1. Oak Ridge Operations (M.P. Hdqs,+CEW, Y-12, K-25, S-50, X-10)	291 officers
2. Baltimore MD	1 officer
3. Boston MA (Stone & Webster, Construction of Y-12 & O. R. city)	3 officers
4. California (U Calif. at Berkeley)	8 officers
5. Chicago IL (U Chicago "Met Lab")	24 officers
6. Cleveland OH (Harshaw Chem. (K-25) and H.K.Ferguson, S-50)	4 officers
7. Colorado (Grand Junction-U- USVanadium,others)	3 officers
8. Columbia NY (Univ. SAM Labs, K-25 Plant R&D)	4 officers
9. Dayton OH (Triggers)	2 officers
10. Decatur, IL (the Houdaille-Hershey Barrier Manuf. Plant for K-25)	3 officers
11. Detroit, MI (Chrysler's Plant for K-25 Ni plating plus assembly)	4 officers
12. Hanford Engineer Works (under Col. Matthias)	26 officers
13. Iowa (Ames, Iowa, U reduction to metal and Feed prep technology)	1 officer
14. Area L (Los Alamos and Santa Fe under Col. Tyler)	86 officers
Includes medical & security	
15. Madison Square (NYC U feed materials and other special mats.)	29 officers
16. Milwaukee WI (Allis Chalmers, Y-12 magnets, K-25 compressors)	3 officers
17. New York (Kellogg, Carbide, work for K-25 Plant under Stowers )	21 officers
18. Rochester, NY(Univ of Roch., toxicology of Spec Nucl Mtls, others)	8 officers
19. St. Louis MO ( Mallinckrodt Chem., U Oxide feed for Y-12, others)	3 officers
20. Tonawanda, NY (Linde, Hooker, Harshaw, Electromet)	3 officers
21. Washington DC (Headquarters) (mostly Intelligence/security)	22 officers
22. Washington DC (Liaison Office) (mostly expediting officers)	16 officers
23. Washington DC (OSRD--Office Sci & Res. & Devel.)	9 officers
24. Washington DC (Area Engineer and staff)	5 officers

25. Area Q (Tinian?, this is Aug '45 & all are Security Officers)	17 officers
26. Unassigned, Independent units, Pending assignment, other	18 officers
27. Total Roster 31 August 1945	615 officers

Note. These rosters, a number of which I have access to from early 1943 courtesy of Wm. T. Sergeant, a Captain and Security officer in the above Roster, frequently change both names and assignments as the Project grew over its four years. Early emphasis was on providing the personnel, major contracts, and materials needed, esp. uranium and graphite. Later, production, and security became major concerns. The Los Alamos contingent, here in August 1945 is the largest of all the area offices. The responsibility of Oak Ridge Headquarters through its large group of 86 officers stationed in Los Alamos/Santa Fe was only for the administrative functions (personnel, security, medical service, postal, the WAC detachment, the SEDetachment, procurements, PX, and other). By a special arrangement worked out between Oppenheimer and Groves, on those issues involving the LASL *technical* program Oppenheimer reported directly to Groves, not to Nichols. This is the important meaning of the little parenthetical note above the organization chart box titled Santa Fe which says, "(Administration Only)." It is a tribute to Nichols, Oppenheimer, and Groves that they made this odd arrangement work.

The purpose of presenting this information is *not* to make the Manhattan Project story appear complicated beyond telling. Just as, for example, at the Colonial National Historical Park at Yorktown few visitors will be interested in the details of how the Army was organized and its unit commanders, most visitors to the MPNHP will likely have little interest in these details. My purpose rather is to show some detail that underscores the major role in the Project that the Oak Ridge site served and thus the importance of including its story as part of the Manhattan Project National Historical Park. I will be pleased to provide explanations or further information if desired.

Sincerely,

William J. Wilcox, Jr.  
Oak Ridge City Historian,  
Chair, Partnership for K-25 Preservation (PKP)  
412 New York Avenue  
Oak Ridge, TN 37830  
865-483-4990  
[gbwilcox@aol.com](mailto:gbwilcox@aol.com)